

Work Order ID 144216

April 07, 2016 2:58:16 PM

144216

Page 1

Item ID: D117-837-011

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 5/26/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: SA **20160408** Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9706-011	A								
DSI9716	A								
IIN-D117-837	B								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D117-837-011 CHG006								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

MAY 10 05:12

Great Start

URGENT!

DAS
27
9-89
MAY 13 2016

MAY 12 2016

DAS
6
9-89
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Page 1

Work Order ID: 144216

144216

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016

Required Date: 5/26/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 13.03.28 NEW ISSUE DD VERF:JLM IPP REV:B
13.06.21 IIN-D117-837 REV.A DD VERF:JFS IPP REV:C 13.12.02
ecn 13-670/ chg002 DD VERF:JLM IPP REV:D 14.07.25 ecn 14-571/
chg003 DD VERF:JLM IPP REV:E 14.07.25 ecn 14-624/ chg004 DD
VERF:JLM IPP REV:F 15.02.02 AS PER DIS9716 DD
VERF:JLM IPP REV:G 15.05.27 now at chg006 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4911-5 Bracket		Manufactured	No				Each	6.0000	**	2		DAS 6 9-89	DAS 28 9-89
DAS 27 9-89 <u>Location</u> ST137 130510 <u>Loc Qty</u> 6 6 <u>Loc Code</u> B126211													
D5203-041 Strut Assembly		Manufactured	No				Each	0.0000	**	1		MAY 13 2016 DAS 6 9-89	DAS 28 9-89
D5204-1 Bracket		Manufactured	No				Each	19.0000	**	2			DAS 6 9-89
DAS 27 9-89 <u>Location</u> ST157 132999 <u>Loc Qty</u> 19 19 <u>Loc Code</u>													
D5205-1 Bracket		Manufactured	No				Each	6.0000	**	1		DAS 6 9-89	DAS 28 9-89
DAS 27 9-89 <u>Location</u> ST157 139876 <u>Loc Qty</u> 6 6 <u>Loc Code</u>													

MAY 12 2016

Picklist Print

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Page 2

Work Order ID: 144216

144216

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016

Required Date: 5/26/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0832P

Purchased

No

Each

139.0000

NAS1149F0832P

WASHER

**

DAS

DAS

6

28

9-89

9-89

Location

Loc Qty

Loc Code

ST262

139

18057

139

D117-837-111

Manufactured

No

110

Each

0.0000

1

1

D117-837-111

BK117 Basket Mounting Provisions

**

DAS

DAS

6

28

9-89

9-89

D4784-011

Manufactured

No

110

Each

0.0000

1

1

D4784-011

Basket Assembly Heavy Duty Lid, LH/RH

**

DAS

DAS

6

28

9-89

9-89

D4911-1

Manufactured

No

110

Each

9.0000

1

1

D4911-1

Bracket

**

DAS

DAS

6

28

9-89

9-89

Location

Loc Qty

Loc Code

ST136

9

121945

5

122824

4

D5106-041

Manufactured

No

110

Each

0.0000

4

4

D5106-041

Bracket Assembly

**

DAS

DAS

6

28

9-89

9-89

AN3-11A

Purchased

No

110

Each

170.0000

2

2

AN3-11A

Bolt

**

DAS

DAS

6

28

9-89

9-89

Location

Loc Qty

Loc Code

ST349

170

m134167

170

MAY 12 2016

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Shop Packet Print

Page 2

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Page 3

Work Order ID: 144216

144216

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016

Required Date: 5/26/2016

Start Qty: 1.00

Required Qty: 1.00

AN4-12A

Purchased

No

110

Each

210.0000

4

4

AN4-12A

Bolt

DAS
6
9-89

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

10

120423

10

over003

125

m134606

125

ST344

75

m134180

75

MS21042-3

MS21042L3

Purchased

No

110

Each

18.0000

2

2

MS21042-3

Nut / use MS21042L3

DAS
6
9-89

DAS
28
9-89

134360

134360

DAS
27
9-89

Location

Loc Qty

Loc Code

ST304

18

M129682

18

MS21042L4

Purchased

No

110

Each

2,334.000

4

4

MS21042L4

Locknut

DAS
6
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

37

m133363

37

GA

381

m133769

381

OVER007

1000

m134606

1000

ST303

819

m134055

9

m134502

810

ST305

97

m130922

97

DAS
27
9-89

MAY 12 2016

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Shop Packet Print

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Page 4

Work Order ID: 144216

144216

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016

Required Date: 5/26/2016

Start Qty: 1.00

Required Qty: 1.00

MS21069L3

Purchased

No

110

Each

47.0000

8

8

MS21069L3

ANCHOR NUT

134509

DAS

6

9-89

DAS

28

9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST282

46

m134567

46

ST299

1

m133990

1

MS27039-1-08

Purchased

No

110

Each

456.0000

8

8

MS27039-1-08

Screw

DAS

6

9-89

DAS

28

9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001

83

m128636

83

GA

73

125654

2

m128636

71

ST281

300

m134502

300

NAS1097AD34

Purchased

No

110

Each

4,979.000

16

16

NAS1097AD34

RIVET

DAS

6

9-89

DAS

28

9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST267

4979

M132525

4979

MAY 17 2016

16

Picklist Print

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Page 5

Work Order ID: 144216

144216

Parent Item: D117-837-011

D117-837-011

Parent Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016

Required Date: 5/26/2016

Start Qty: 1.00

Required Qty: 1.00

NAS1149D0416J

Purchased

No

110

Each

4,276.000

8

8

NAS1149D0416.I

WASHER

DAS

28

DAS
6
9-89

Location

Loc Qty

Loc Code

GA

246

m131511

246

ST260a

1984

m131511

1984

ST264

2046

m131511

2046

NAS1149F0332P

Purchased

No

110

Each

2,271.000

2

2

NAS1149F0332P

Washer

DAS

28

9-89

DAS

28

9-89

Location

Loc Qty

Loc Code

GA

312

m133709

312

ST262

1959

m134134

459

m134257

1500

MAY 12 2016

Work Order ID 144210

144210

April 07, 2016 2:58:16 PM

Item ID: D117-837-011 Accept *N900040100* Setup Start *NS1*

Revision ID: Stop *NS2*

Item Name: BK117 Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 5/13/2016 Start Qty: 1.00 *1*

Required Date: 5/26/2016 Req'd Qty: 1.00 *1*

Reference: 144210 Cust Item ID:

Customer:

Approvals: Process Plan: SA Date: 20160408 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
100	Document Control DOCUMENT CONTROL	0.00							
100									
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D117-837-011 CHG006								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

MAY 12 2016
0.00
Label

Grand Sheet

URGENT!
MCS MAY 12 2016

MAY 12 2016

0.00

REFERENCE ONLY

5.0 PARTS LIST

Qty -011	Qty -013	Qty -111	Part Number	Description
X			D117-837-011	HELI-UTILITY-BASKET, LH/RH
	X		D117-837-013	PROP ARM KIT
1		X	D117-837-111	BASKET PROVISION MOUNTING KIT
	1*		D2332-041	PROP ASSEMBLY (OPTIONAL)
	4*		D3953-9	WASHER
1			D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
1			D4794-043	STRUT ASSY
		2	D4893-1	HARDPOINT ADAPTER, LH
		2	D4893-2	HARDPOINT ADAPTER, RH
		1	D4894-1	FWD BEAM
		1	D4894-3	AFT BEAM
		1	D4895-045	FWD OUTBOARD BEAM ASSY
		1	D4895-047	AFT OUTBOARD BEAM ASSY
1			D4911-1	BRACKET
2			D4911-3	BRACKET
4			D5106-041	BRACKET ASSY
2			AN3-11A	BOLT
4			AN4-12A	BOLT
		4	AN4-17A	BOLT
		12	AN5-23A	BOLT
		12	MS20002C6	WASHER
2			MS21042-3	NUT
4		4	MS21042L4	NUT
		12	MS21042L5	NUT
		12	MS21042L6	NUT
4			MS21069L3	ANCHOR NUT
		12	MS21250-06022	BOLT
4			MS27039-1-08	SCREW
8			NAS1097AD3-4	RIVET
	3*		NAS1149C0463R	WASHER (or AN960C416)
8		8	NAS1149D0416J	WASHER (or AN960JD416L)
		24	NAS1149D0516J	WASHER (or AN960JD516L)
		12	NAS1149D0616J	WASHER (or AN960JD616L)
6			NAS1149F0332P	WASHER (or AN960-10L)

* D2332-041 PROP ASSEMBLY & HARDWARE (OPTIONAL) TO REPLACE D3969-3 GAS SPRING

REFERENCE ONLY

4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 005, the Parts List in ICA-D117-837 and IIN-D117-837 (as modified per DSI 9706 Rev. A) should be updated as follows:

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
1	D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
4	D5106-041	BRACKET ASSY
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
4	AN4-12A	BOLT
2	NAS1149F0332P	WASHER
8	NAS1149F0416P	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT
4	MS21042L4	NUT

For D117-837-011 Heli-Utility-Baskets @ CHG 002 thru CHG 004, the DSI 9716-011 Strut Relocation Kit is available from Dart.

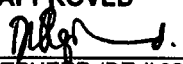
Qty -011	Part Number	Description
X	DSI 9716-011	STRUT RELOCATION KIT
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
2	NAS1149F0332P	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 15.01.06
CERT. NO.: SH13-22
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	HS	DRAWING NO. REV. A
MFG. APPR.	N/A	DSI 9716 SHEET 2 OF 4
APPROVED		TITLE SCALE
DE APPR.		STRUT RELOCATION NTS
DATE	15.01.06	COPYRIGHT © 2015 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-837 REV. B AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-837 REV. 1
REF. TCCA STC: SH13-22
REF. FAA STC: SR03353NY

1.0 Purpose

The purpose of this Dart Service Instruction (DSI) is to provide instructions to replace the D4911-3 Bracket with a D4911-5 Bracket for customers who already have D117-837-011 at CHG 002 or CHG 003. The D4911-5 Bracket will better distribute the drag load from the D117-837-011 Heli-Utility-Basket to the airframe in flight.

2.0 Removal of D4911-3 Bracket

- 2.1 For D117-837-011 Heli-Utility-Baskets at CHG 003, temporarily remove the D4794-043 Strut Assy from the D4911-1/-3 Brackets by disconnecting 2x MS17984-C405 quick release pin.
- 2.2 For D117-837-011 Heli-Utility-Baskets at CHG 002, temporarily remove the D4794-041 Strut Assy from the D4911-1/-3 Brackets by disconnecting AN4-7 bolts and associated Hardware from both ends of D4794-041 Strut Assy.
- 2.3 Remove the D4911-3 Bracket from airframe by removing 2x MS27039-1-08 Screws and 2x NAS1149F0332P washers.
- 2.4 Inspect the underlying aircraft structure for damage. If cracking/buckling of the aircraft structure is observed, repair per BK117 Aircraft Maintenance Manual Chapter 21-1.

3.0 Installation of D4911-5 Bracket

- 3.1 Temporarily remove LH/RH side cabin outboard floor panels as applicable.
- 3.2 Using D4911-3 Bracket as a template, transfer 2x $\varnothing 0.196$ " (#9 drill) holes from D4911-3 to new D4911-5 Bracket as shown in Figure 1.
- 3.3 Using the D4911-5 as a template, remove two rivets at STA 156.3 (3970) under the D4911-5 Bracket. Transfer drill these rivet holes to the D4911-5 Bracket as shown in Figure 1. Enlarge rivet holes to $\varnothing 0.196$ " (#9 drill) in the aircraft rib and on the D4911-5 Bracket. Transfer $\varnothing 0.098$ " (#40 drill) for MS21069L3 anchor nut and c/sink/dimple holes for NAS1097AD3-(4) rivet as shown in Figure 2. Deburr and touch-up aircraft holes with Alodine 1200/1201 per MIL-C-5541.
- 3.4 Install 2x MS21069L3 anchor nuts using NAS1097AD3-(4) rivets as shown in Figure 2.
- 3.5 Install D4911-5 Bracket into the aircraft ribs using 4x MS27039-1-08 screws and 4x NAS1149F0332P washers as shown in Figure 1. Torque screws to 20-25 in-lbs (2.3-2.8 N-m).
- 3.6 For D117-837-011 Heli-Utility-Baskets at CHG 003, install D4794-043 Strut Assy into D4911-1/-5 Brackets by connecting 2x MS17984-C405 quick release pin per ICA-D117-837 Rev.1.
- 3.7 For D117-837-011 Heli-Utility-Baskets at CHG 002, install D4794-041 Strut Assy into D4911-1/-5 Brackets by installing AN4-7 bolt, 2x NAS1149F0463P washer, AN310C4 nut, MS24665-151 cotter pin in both ends of D4794-041 Strut Assy per ICA-D117-837 Rev.0.
- 3.8 Re-install LH/RH side cabin outboard floor panels as applicable.
- 3.9 Repeat steps 3.1 to 3.8 for opposite side of the aircraft if the aircraft has been configured with basket provisions on both sides.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 14.09.03
CERT. NO.: SH13-22
ISSUE NO.: 1

A	NEW ISSUE	RF	14.09.03
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9706	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BRACKET MODIFICATION	NTS
DATE	14.09.03	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 004, the Parts List in ICA-D117-837 and IIN-D117-837 should be updated as follows:

IS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-5	BRACKET (REPLACES D4911-3)
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
10	NAS1149F0332P	WASHER

WAS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-3	BRACKET
4	MS21069L3	ANCHOR NUT
4	MS27039-1-08	SCREW
8	NAS1097AD3-4	RIVET
6	NAS1149F0332P	WASHER

For D117-837-011 Heli-Utility-Baskets @ CHG 002 or CHG 003, the DSI 9706-011 Basket Modification Kit is available from Dart.

Qty -011	Part Number	Description
X	DSI 9706-011	BRACKET MODIFICATION KIT
2	D4911-5	BRACKET
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
8	NAS1149F0332P	WASHER

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 14.09.03
CERT. NO.: SH13-22
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9706	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BRACKET MODIFICATION	NTS
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																							
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
																						OTHER : ☐																																									

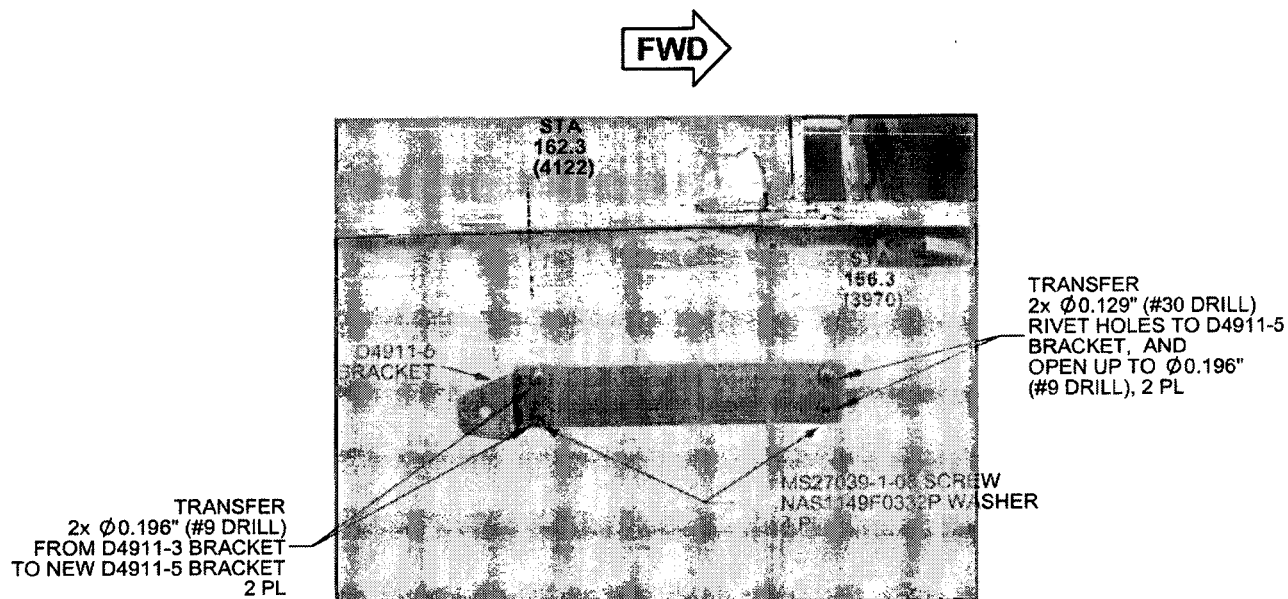


FIGURE 1. D4911-5 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 14.09.03
CERT. NO.: SH13-22
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS	DRAWING NO. DSI 9706	REV. A
MFG. APPR.	N/A		SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BRACKET MODIFICATION	NTS
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WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER :							
Misidentified ☐	☐ Past Due								